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DATE July 1965

CENTRAL INTELLIGENCE AGENCY

PHOTOGRAPHIC INTELLIGENCE DIVISION

PHOTOGRAPHIC INTELLIGENCE REPORT

PROBABLE PRESENCE OF EXHAUST PORTS AT TYPE III-A AND III-C ICBM LAUNCH SITES, USSR

CIA/PIR-1021/65

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CIA/PIR-1021/65

PROBABLE PRESENCE OF EXHAUST PORTS AT TYPE III-A AND III-C ICBM LAUNCH SITES, USSR

Analysis of isodensimetric traces of open Type III-A and III-C Soviet ICBM silos imaged on KEYHOLE photography has revealed density differences, previously undetected, which can be interpreted to be covers placed over rectangular exhaust ports. Similar irregularities in density were detected at open silos at Verkhnyaya Salda Launch Area F (Figures 1 and 2), Drovyanaya Launch Area E (Figure 3), both Type III-A Sites, and at Tyuratam Launch Area B-2 (Figures 4 and 5), the first Type III-C single silo to be completed.

The location of these probable vents is such that they would have been shielded from view by the ramps leading to the silo when the installations were under construction.

The Isodensimetric Technique

The Isodensitracer scans a transparency, measuring the density of the image continuously as it scans. The density is printed out in coded form on a recording which shows the pattern of the original image as a pattern of blank, dotted, or dashed areas. When the scan is in the direction of increasing density, the print-out records in the sequence: blank-dot-dash-blank. Decreasing density is coded in the opposite direction: blank-dash-dot-blank. Thus, to interpret an iso-density recording (usually called an "IDT trace") remember that the dot-dash sequence always leads in the direction of increasing density.

The Isodensitracer can record at magnifications of 1, 2, 5, 10, 20, 50, 100, 200, and 1000 times. The density-code cycle can be set to indicate density changes ranging from 0.005 to 0.12 density units. The scanning aperture can be as small as 3-5 microns, if the detail and density of the original allow.

In essence, the Isodensitracer can detect a difference in density with a sensitivity about 10 times better than the human eye. It can record this difference as an interpretable pattern at magnifications of up to 1000X. Within wide limits, the overall level of density has no effect upon the detection of density differences. This means that very subtle changes in surface brightness can often be analyzed even if, to the eye, a surface appears uniformly bright in a photograph. Or again, the shapes of objects hidden in deep shadow can often be traced out in an area the eye sees only as a solid black mass. Thus, in special situations, the Isodensitracer can recover details present on the photographic film, even though they may fall well outside the range of normal exposure latitude.

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REFERENCES

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REQUIREMENT

C-SI5-82,496

CIA/IAD PROJECT

30575-5

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TYPE: Site 11
LOCATION: KY/VMTC

KY/VMTC INSTRUMENTATION SITE 11

(See Figure 14)

Site 11 (49-07-00N 45-42-00E) is somewhat less cluttered and hence more defined in appearance than Site 10. It contains possibly as many as 5 radar positions: a mounded position with a large radar of unidentified type (item 1), 2 slightly elevated positions occupied by smaller radars of unidentified type (items 2 and 3), and 2 other positions having possible radars (items 4 and 5). There are a large number of possible instrumentation/communications positions, including a hardstand occupied by unidentified equipment (item 6), an unoccupied probable hardstand (item 7), 2 possible instrumentation positions flanking a number of pieces of unidentified equipment (items 8 and 9), a probable instrumentation position (item 10), and a probable communications area (item 11) containing 4 buildings, and a number of vehicles/vans and unidentified equipment. A support area contains 10 to 12 buildings/structures and several pieces of unidentified equipment. The site has no apparent orientation. It cannot be negated on KEYHOLE photography and was

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Map: DIA. USATC, Series 200, Sheet 0235-17HL, 3d ed, Apr 64 (S)

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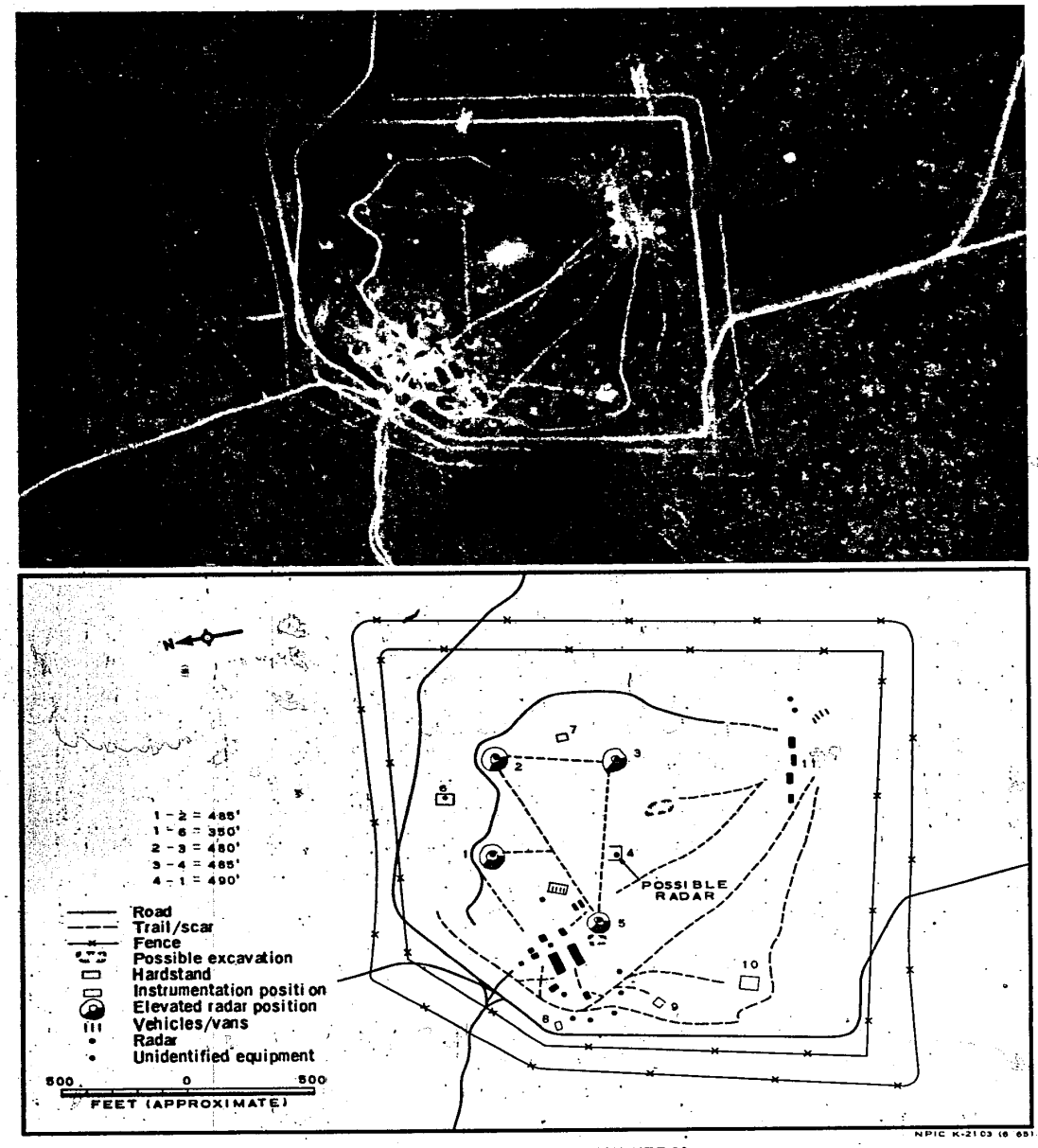

FIGURE 14. INSTRUMENTATION SITE 11.

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REFERENCES

DOCUMENT

1. NPIC. R-322/64, *H-Shaped Unidentified Installations, USSR*, May 64 (TOP SECRET RUFF)

REQUIREMENT

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NPIC PROJECT

11077/65

ADDENDUM

On the latest photographic coverage available the following significant additions to this report were noted:

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1. Two newly-identified conventional H-configured facilities are situated generally north of Leningrad at 60-50N 30-22E and at 61-23N 31-51E.

2. On large-scale photography of the Kamyshin facility, it has been noted that most of the radars have been removed. Also, a pair of tower-mounted, probably new-type communications antennas were observed at instrumentation/communications positions (item 10, Figure 10).

3. On large-scale photography of the Gornyy Balykley facility, the previously noted radars now appear as 2 probable height finders and a tall, van-mounted antenna of an unidentified type.

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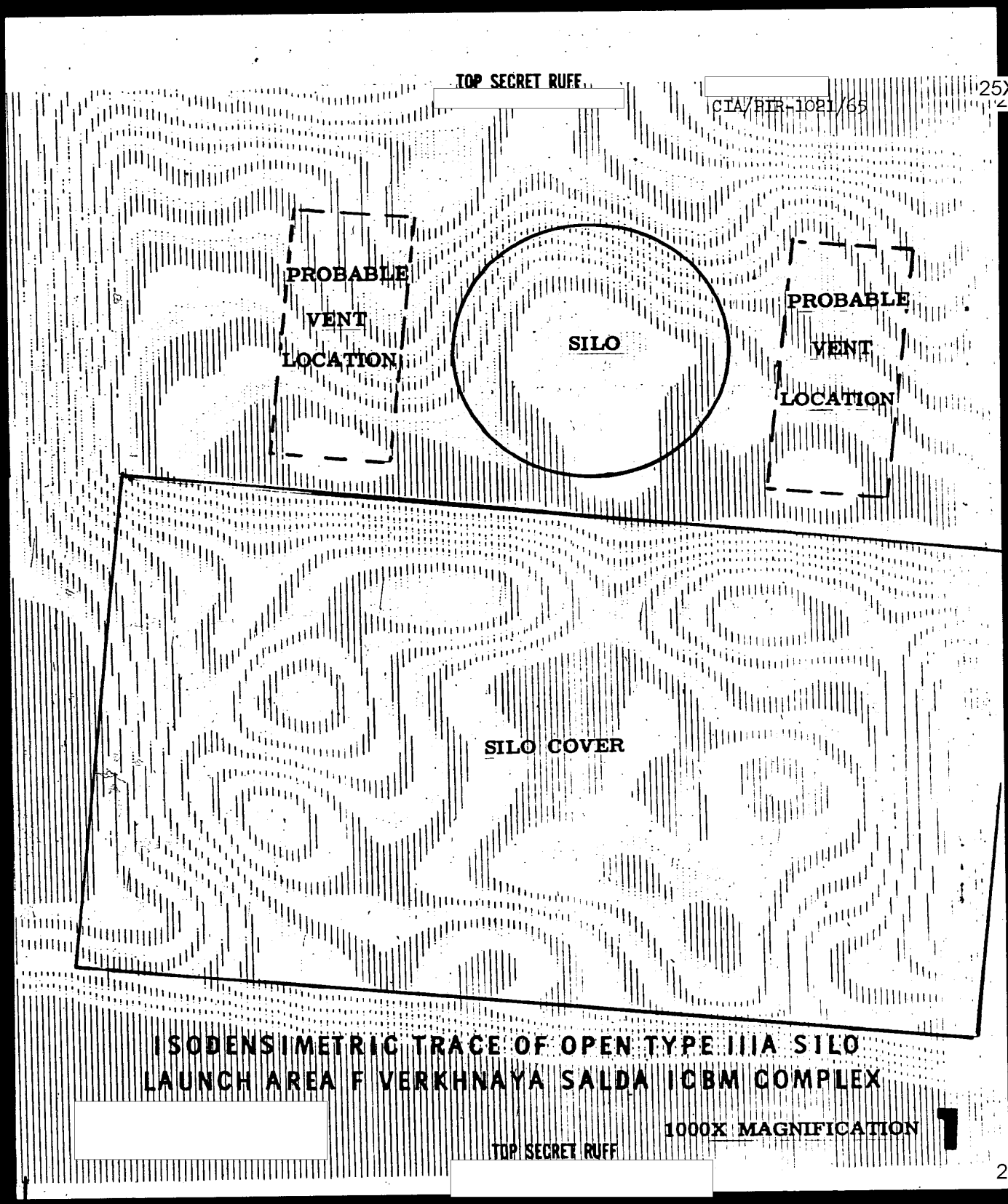
CIA/RIR-1021/65



ISODENSIMETRIC TRACE OF OPEN TYPE IIIA SILO
LAUNCH AREA F VERKHNAYA SALDA ICBM COMPLEX

1000X MAGNIFICATION

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TYPE IIIA

LAUNCH AREA F, VERKHNYAYA SALDA

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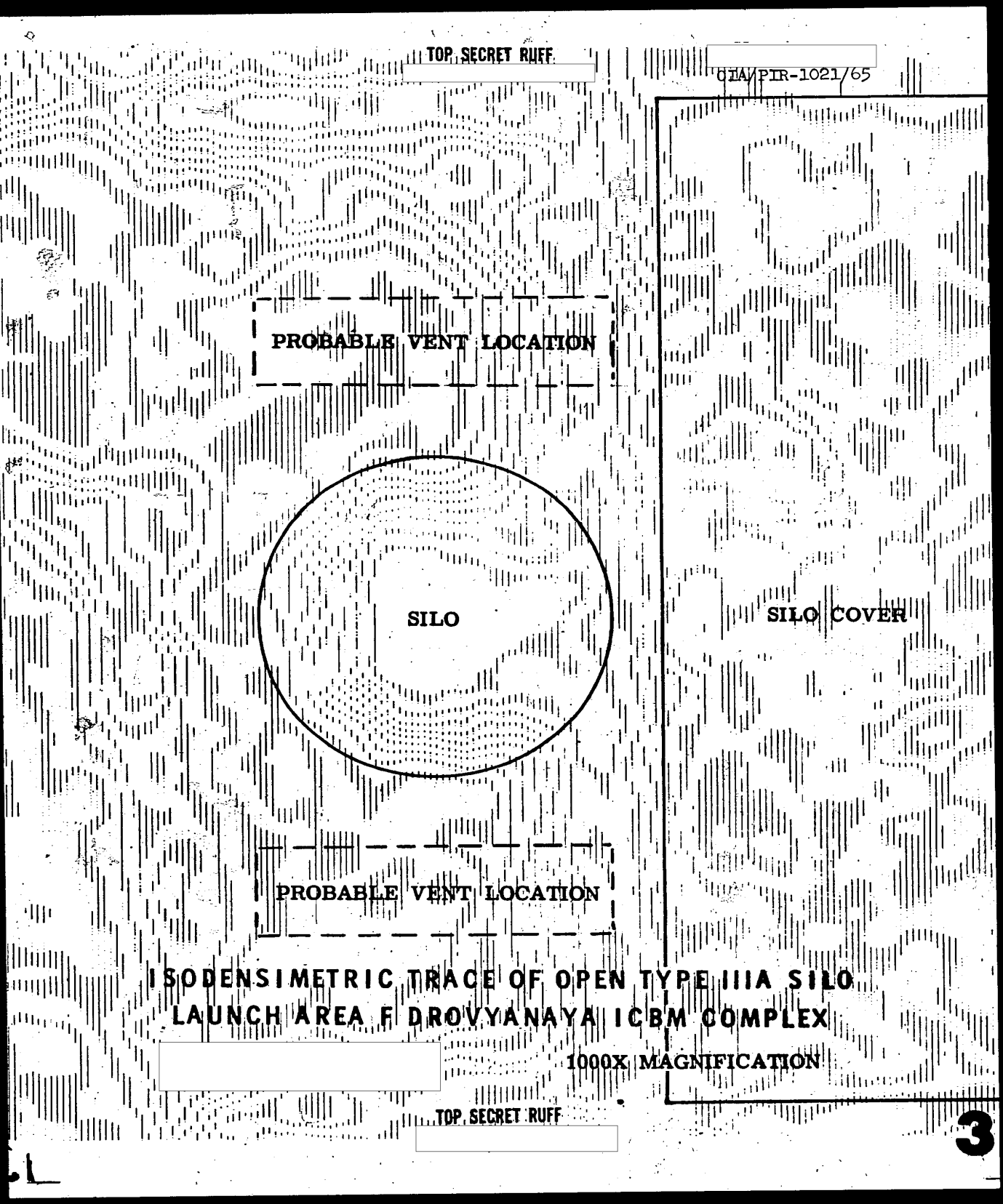

ISODENSIMETRIC TRACE OF OPEN TYPE IIIA SILO
LAUNCH AREA F DROVYANAYA ICBM COMPLEX
1000X MAGNIFICATION

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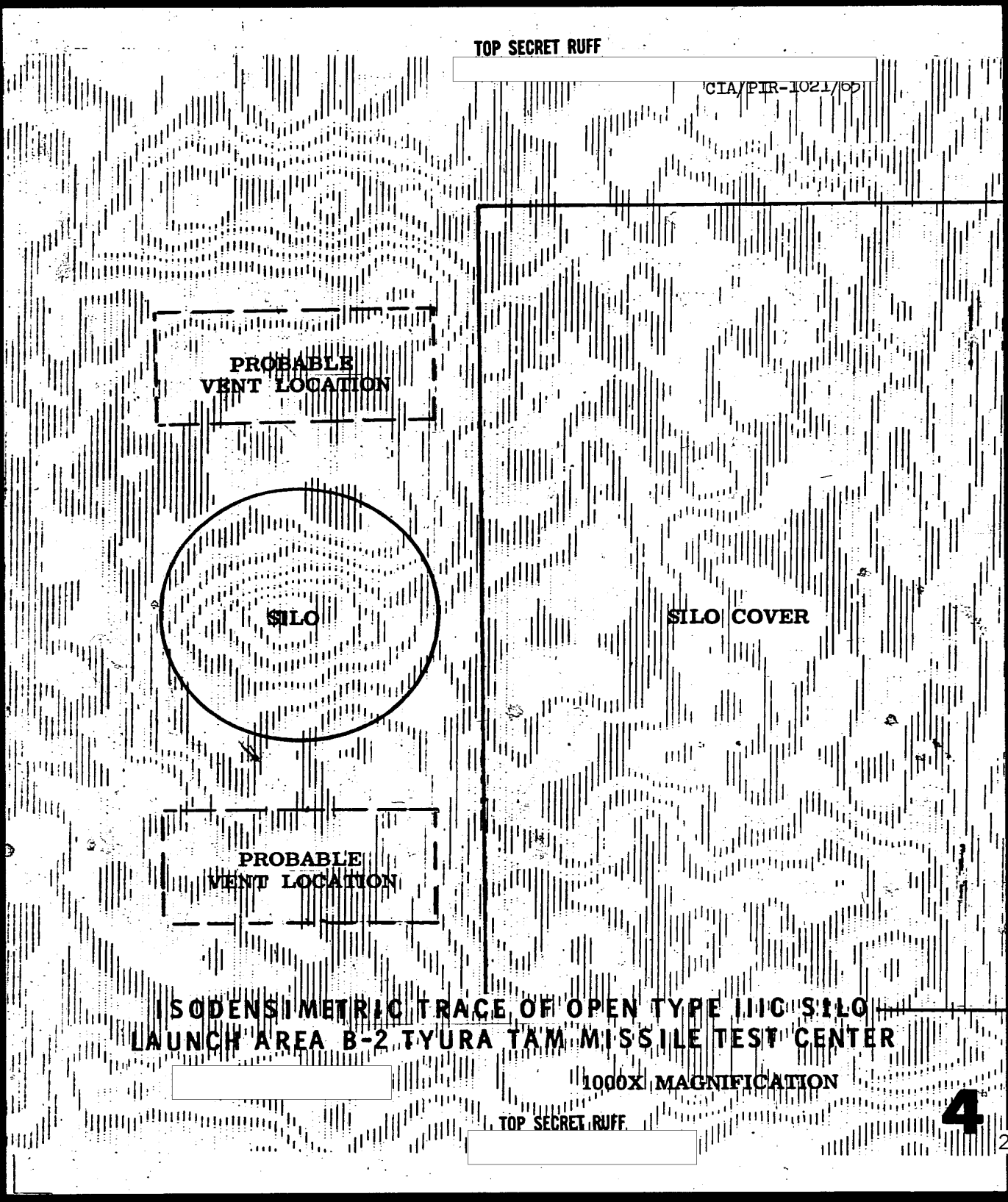

ISODENSIMETRIC TRACE OF OPEN TYPE IIIC SILO
LAUNCH AREA B-2 TYURA TAM MISSILE TEST CENTER

1000X MAGNIFICATION

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4

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TYPE IIIC
LAUNCH AREA B-2, TYURA TAM